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SCLEREMA NEONATORUM.

REPORT OF A CASE.

BY

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SCLEREMA NEONATORUM—REPORT OF A CASE.

I HAVE to present to you a typical case of sclerema neonatorum, a disease which is rare in America, occurs seldom in England, and is by no means common in France and Germany. At the New York Foundling Asylum, where have been received seven thousand foundlings in the seven years of my connection with that institution, there has been but this one case. It is rather a medical curiosity, not, however, without interest and importance in diagnosis, although rather hopeless in prognosis and unsatisfactory in treatment. It does not meet the practitioner in his home-practice, but finds its way into foundling asylums from damp subcellars, and from the corners of debauchery and squalor in a great city.

The present case is so typical of its kind, and so fully described in medical literature, that I shall take your time for little more than its simple narration.

In February, 1885, there were brought to the asylum, by an unknown person, a pair of twins, five days old. Both were girls, weighing about seven pounds each, though one was weaker, jaundiced, affected with sprue, and registered a temperature, on an approved thermometer, five minutes in the rectum, of 96½° Fahr.

The stronger child had nothing about it to attract further attention, and was accordingly transferred to the nurseries. She died the following July (aged six months), with a diagnosis of cholera infantum.

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The child with whom we have to do was given in charge of a nurse, with instructions to try and restore its bodily temperature. All efforts at restoration, however, failed utterly, and to the nurses of the hospital the patient is still known and remembered as the "cold baby" or the "stone baby."

On the seventh day of its life I saw the child with Dr. Henry Blodgett, the resident physician, who believed it to be similar to a case he had seen during his studies on the continent of Europe, and he had already made a diagnosis of sclerema. What had been described as puffiness of the feet, on entrance, was now hardness, giving to the finger-pressure a sensation of half-frozen tissue. This condition had spread up the legs, was upon the thighs and hips, shoulders, arms and hands, scalp and face; was least marked on the abdomen, most marked on the thighs and arms, was distinct and characteristic on the cheeks. The face was rigid, cold, and mask-like, the thighs and shoulders immovable, the elbows and knees stiff.

One seeing, for the first time, this infant as it appeared on that day, would be struck with its dirty brownish-yellow color, with its smooth, prominent cheeks and chin, its unchanging and constrained posture; and if he were, with blindfolded eyes, to manipulate it, or even put his finger into its mouth, would be struck with its coldness. As for its general feeling, it would be best likened, from its hardness and frigidity, to a half-frozen cadaver.

It emitted a small squeaking cry while being handled, moaning occasionally, but otherwise remained quiet, with closed eyes. Its pulse was not perceptible at the wrist; respiration was shallow and quiet; temperature descending. The mercury of a thermometer, in the rectum five minutes, did not rise to the lowest figures of the register. In this condition it lay and cooled and hardened till the ninth day after birth, when it was pronounced dead.

At autopsy, the distribution of subcutaneous hardening was the same as during life, the abdominal wall being least affected. The tissues behaved under the knife like half-frozen fat, hardest and most resisting over the buttocks, thighs, and cheeks. On section of these parts there was no escape of fluid,—serum

or blood; the cut was dry, as though dividing half-frozen tissue; no œdema. The skull was normal, its anterior fontanel measuring about a centimetre across its lateral angles. The brain was normal.

In the lungs were scattered dark hemorrhagic masses, distributed beneath the pleura of the anterior and lateral surfaces and base and throughout the organ. The lungs had been fully aërated and were nowhere collapsed.

The heart and great vessels were normal; foramen ovale and ductus arteriosus closed. The pulmonary artery and aorta were believed to be in proper proportions of size to each other and to the heart's cavities; the partitions, chambers, and muscles of the latter being, severally, of normal weight, size, and quality of tissue.

Kidneys.—Urates were collected in the tubuli uriniferi, showing fine red diverging lines upon the congested pyramids. The tissues of the organ were normal. Stomach and intestines were normal. Liver was normal, as was the umbilical vein.

Microscopical examination of the liver showed a moderate degree of congestion; otherwise it was normal; kidneys also normal.

The dark masses in the lungs were composed of fresh blood-cells in the alveoli, connective tissue, and lymph-spaces. There were no swollen epithelia, and no evidence of bronchitis or foreign bodies.

Examination of the skin and subcutaneous tissue was made from specimens selected from the following locations,—viz., abdomen, anterior aspect of thigh, calf, dorsal and plantar surfaces of the foot.

One leg was removed at the hip-joint, and the vessels injected with gelatin blue, as recommended by some writers, to test the permeability of the cutaneous capillaries. For control examinations, specimens were removed from the same locations in two other infants of similar age. These selected specimens were hardened in different approved fluids.

The capillaries took the blue injection well, showing so excellently the vascular net-work that the specimen was thought worthy to serve for class instruction in normal histology. In the uninjected specimens no vessels were observed

to be abnormal. The connective-tissue bands and adipose tissue could not be pronounced in any way unlike the type of the two normal control specimens, neither was there any abnormity to be detected in the lymphatics. In short, a morphological examination disclosed no lesion and suggested no cause for the condition found in the subcutaneous tissue before death.

I may state that my own examination of these specimens has been supplemented with partial examinations by expert general pathologists and by skin specialists, and the report as given above is in conformity with their opinions.

I have recited the case of a feeble twin, born in midwinter, in squalor, which developed progressive and extended subcutaneous hardening, coincident with a gradual and excessive depression of the body temperature, ending in death on the ninth day.

A morphological study of the tissues has given but negative results.

I shall not take your time to give what can be found in every French and German cyclopædia of medicine.* Suffice it to say, I have recited a case which is typical as there described.

The Surgeon-General's office has kindly furnished me references to five American cases. Only one of these closely approaches the type seen in the large foundling houses of France and Germany, and that is a case reported by Dr. Ellen A. Ingersoll, of Canton, Ill.†

One case referred to was forty-five years old.‡ In one the hardening was local, lasted six months, and the patient was still living when the case was reported.§ Another was re-

* "Sclérême du Nouveau-Né," "Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques," vol. xxxii. p. 603; "Sklerema Neonatorum," "Real-Encyclopädie der Gesammten Heilkunde," 1889, xviii. 341.

† Ellen A. Ingersoll, "Sclerema Neonatorum," *Peoria Med. Month.*, 1887–88, viii. 240.

‡ H. C. Gardinier, "A Case of Sclerodactyle with Diffuse Scleroderma," *Am. Jour. Med. Sci.*, Phila., 1889, n. s., xcvii. 15–25.

§ C. D. Smith, "A Case of Sclerema or Induration of the Cellular Tissues of an Infant, with Remarks" (read before the Society of Medical Inquiry), *N. Y. Jour. Med.*, 1854, xii. n. s., 190–194.

ported as improving from what seemed a case of sclerema.* Another after four to five weeks recovered.†

The cases from which it is necessary to diagnosticate sclerema of the new-born are those of œdema.

It cannot be too plainly stated that sclerema, outside of foundling asylums and the most squalid districts of the large cities, is very rare in this country. No doubt the report now presented will bring to light cases which answer the descriptions here rehearsed; but let it be remembered *œdema* of the new-born, also, conforms, in part, to the main features of the description. In *œdema* there is a lowering of the body temperature, and the œdematous regions may become firm, but neither of these symptoms reach the degree to which they attain in sclerema.

As an illustration, I may say I have held the above recorded case four and a half years, expecting to find another to study in connection with it. In that time many babies have been shown to me, both hardened and cold, but, when examined, these features have not corresponded in degree, at all, to the case which did not raise the mercury to the lowest record figure. So I beg you be on your guard; see if the œdema pits, under finger-pressure, are symmetrical, confined to the lower extremities or to the dependent portions of the body. There is a feeling of immobility about scleremato us tissues, as though they were a compact mass, the skin not moving on the muscles, and not to be gathered up into rolls. Sclerema begins in the lower extremities mostly, but it later selects the regions of accumulated fat, and shows peculiarly this tendency when the cheeks are involved.

In the case given by Dr. Ingersoll the labor was normal, the child weighing seven or eight pounds. On the third day sclerema appeared, involving the scrotum and anterior surface of the thigh. It then passed to the neck, chest, and superior extremities, and death occurred in forty-eight hours from interference with respiration. The muscles of respiration

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* A. R. Robinson, "Sclerema Neonatorum," Case, *Arch. Dermat.*, New York, 1882, viii. 337.

† C. C. McDowell, "Case of Scleroderma occurring in a Patient Three Weeks of Age," *Maryland Medical Journal*, Baltimore, 1877, 1–203.

and of deglutition were supposed to be sclerosed. The mother was thirty-five years of age, and this was her eighth pregnancy. She had been in liquor for several days prior to confinement, and was much exposed in midwinter.

If I were to present a composite picture of cases of true sclerema neonatorum, it would have the prominent points of the case I have here presented.

In regard to the pathology of this affection, I find that almost everything has been touched upon.

Each observer who has written on sclerema has given some explanation founded upon this individual study. One has found fatty heart, one faulty innervation of the heart; several have found it associated with, and probably due to, imperfect expansion of the lungs and defective hæmatosis; several have attributed it to obstruction of the cutaneous capillaries and lymphatics and suppression of the sweat functions, etc. Parrot,* to whom all subsequent writers refer with great satisfaction, found all the elements of the skin changed, some increased, some diminished, and always in infants who were in the last stage of an obstinate intestinal disease.

The most satisfactory explanation for the hardening of the subcutaneous tissue in sclerema (skin-bound) of the new-born is based on the statement of Langer,† that children's fat contains much more palmatin and stearin than that of adults, and solidifies upon moderate depression of temperature.

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* J. Parrot, "Endurcissement L'Athrepsie," Clinique des Nouveau-Nés, Paris, 1877, pp. 116, 118, 121; "Œdème," p. 205; C. Henry, "Verhärtung des Zellgewebes," *Handbuch der Kinderheilkunde*, Bd. ii. 1871, pp. 40–158; Meigs and Pepper, "Sclerema," "Diseases of Children," Phila., 1883, p. 976; Eustace Smith, "Sclerema," "Diseases of Children," New York, 1886.

† Ludwig Langer, *Wiener Sitzungsbericht*, 1881.

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